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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,178	03/02/2004	Kunio Moriyama	K2020.0004/P004	3537
24998	7590	09/30/2005	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			LEYBOURNE, JAMES J	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	
			2881	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.P.

Office Action Summary	Application No. 10/790,178	Applicant(s) MORIYAMA ET AL.	
	Examiner James J. Leybourne	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/3/04;6/20/05</u> | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 15-17 objected to because of the following informalities: In the first two lines of claims 15-16 the phrase "any one of" should be deleted because they are typographical errors. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Lesyna et al. (USPN 5260581).

Regarding claims 1-17, in Fig. 1, Lesyna et al. disclose a particle beam therapy system comprising: a charged particle beam generator for emitting a charged particle beam; a plurality of treatment rooms in each of which an irradiation unit for irradiating the charged particle beam is disposed; a charged particle beam transport apparatus

having a plurality of beam paths, communicated with said charged particle beam generator, and transporting the charged particle beam emitted from said charged particle beam generator separately to said respective irradiation units in said plurality of treatment rooms.

Regarding claims 1-4, in Fig. 4, Lesyna et al. teach using irradiation ready signals (beam requests) corresponding to the treatment rooms to control the sequence of introducing the charged particle beam into the treatment rooms.

Regarding claims 5-6, in Fig. 4, Lesyna et al. teach generating treatment room information (treatment room configuration signals) representing the selected treatment room to which the charged particle beam is introduced.

Regarding claims 7-9, as shown in Fig. 1, the system of Lesyna et al. comprises a first beam transport system connected to the particle beam generator and transporting the charged particle beam to a plurality of second beam transport systems corresponding to the treatment rooms to the corresponding irradiation units disposed in the treatment rooms.

Regarding claim 10, as shown in Fig. 5, the particle beam therapy system of Lesyna et al., includes a control system, a treatment sequence deciding unit (module 102) for deciding a priority sequence and a controller for controlling path switching devices for introducing the charged particle beam to the selected treatment room.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lesyna et al. as applied to claims 1-10 above.

Regarding claims 11-14, Lesyna et al. do not teach that a display device is located in the treatment rooms. In column 6, lines 8-14, Lesyna et al. teach that beam input parameters can be input by the operators. It would be obvious to one of ordinary skill in the art at the time of the invention to include display devices for visual verification of the data.

Regarding claims 15-17, the examiner interprets the phrase "when a cancel signal for canceling transport of the charged particle beam to one of said treatment rooms is inputted" to mean manually inputted. Lesyna et al. do not teach providing a means for manually aborting or halting the beam input to one of the treatment rooms. In column 6, lines 59-63 they teach treatment room configuration signals may include

signals which would trigger an aborting of the treatment beam from the accelerator. If such signals are present, beam is denied to the selected treatment room. It would be obvious to one of ordinary skill in the art at the time of the invention to include such a means to halt treatment in cases of unusual circumstances because Lesyna et al. teach that in a proton therapy system, patient safety is of prime importance (column 1, lines 17-18).

Allowable Subject Matter

6. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is an examiner's statement of reasons for indicating allowable subject matter:

With respect to the claim 18, the prior art fails to disclose or make obvious a method for irradiating a charged particle beam emitted from a charged particle beam generator to a patient in selected one of a plurality of treatment rooms by an irradiation unit in the selected treatment room, the method comprising steps of:

selecting said plurality of treatment rooms in sequence in which preparations for irradiation of the charged particle beam to said patient have been completed, and

introducing the charged particle beam to said irradiation unit in the selected treatment room.

The main feature that separates the method apart from prior art is selecting the sequencing of the beam in the order of completion of patient preparation. This provides more efficient use of the capacity of the charged particle system.

Relevant Prior Art

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. The following patents are cited to show further show the state of the art with respect to beam control in a particle beam therapy system comprising multiple treatment rooms.

Moriyama et al. (2004/0183033)

Martin (USPN 5,073,913)

Morgan et al. (USPN 6,444,990).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is 571 262-2478. The examiner can normally be reached on M_F 10:00AM - 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 23, 2005

JJL


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800